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# Thoughts on Education.

THE

# INTRODUCTORY DISCOURSE

DELIVERED BEFORE THE

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF EDUCATION

AT ITS

FOURTH ANNUAL SESSION, HELD IN WASHINGTON IN DECEMBER, 1854.

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BY

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SECRETARY OF SMITHSONIAN INSTITUTION.

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# I. INTRODUCTORY DISCOURSE

## THOUGHTS ON EDUCATION.

BY JOSEPH HENRY, LL. D.

No subject of human thought has perhaps received more attention than that of education. Every one has the material for speculating in regard to it in his own experience; but individual experience is too limited a basis on which to found a general theory of instruction, and besides this, paradoxical as it may appear, an individual is perhaps less able to judge correctly of the effects of the course of instruction to which he has been subjected than another person. No one can tell what he would have been under a different course of training, and the very process which he condemns may perhaps have been the one best suited to develope the peculiarities of mind which have led to his success in life; and indeed in some very rare instances the want of all training of a systematic kind may be the best condition under Providence for producing an entirely original character. Shakespeare's genius might have been shackled by the scholastic curriculum of Oxford or Cambridge; but these cases are extremely rare, for genius itself, like the blossoms of the aloe is the solitary production of a century.

I bring forward my own views on education with diffidence. First, because I have read scarcely any thing on the subject, and what I shall say may be considered common-place; secondly, because my views may in some respects be at variance with what are regarded as the established principles of the day. But important truths cannot be too often presented, and when re-produced by different minds under different circumstances they can scarcely fail to awaken new trains of thought and renewed attention; and again, if the propositions which I maintain are erroneous, I desire that they may be discussed and disproved before they are given more widely to the public. What I shall advance may be viewed as suggestions for consideration rather than propositions adequately proved.

In the establishment of a principle it is of the first importance that all probable suggestions relative to it may be subjected to critical examination, and tried by the test, as far as possible, of experience; it is in this way that science is advanced.

The first remark which may be made in regard to education is, that it is a forced condition of mind or body. As a general rule it is produced by coercion; at the expense of labor, on the part of the educator, and of toil and effort on the part of the instructed. That there is no royal road to learning, is an aphorism as true now as it was in the days when first uttered. God has placed a price on that which is valuable, and those who would possess a treasure must earn it at the expense of labor. Intellectual as well as material wealth can only be purchased at the price of toil. It is true the child may be induced to learn his task by the prospect of reward; by emulation; by an appeal to his affections; but all these, in some cases, are ineffectual, and recourse must be had to the stimulus of the rod. I do not by this remark intend to advocate a general recourse to corporeal coercion. It should be used sparingly, perhaps only in extreme cases, and for the purpose of eradicating a vicious habit. The philosophy of its use in this case is clear. We associate pain with the commission of an improper act and thus prevent its recurrence.

I have said, that education is a forced condition of mind or body. The child, if left to itself, would receive no proper development, though he might be surrounded with influences which would materially affect his condition. The savage never educates himself mentally, and were all the educational establishments of the present day abolished, how rapidly would our boasted civilization relapse into barbarism.

Another important fact is, that every generation must educate and give character to the one which follows it, and that the true progress of the world in intelligence and morality consists in the gradual improvement of the several generations as they succeed each other. That great advance has been made in this way, no one can doubt who views the facts of history with an unprejudiced mind; but still the improvement has not been continuous. There have been various centres and periods of civilization. Egypt, Greece, and Rome, though they have left an impress upon the world which extends even to our time, and modifies all the present, have themselves "mouldered down." It appears, therefore, that civilization itself may be considered as a condition of unstable equilibrium, which requires constant effort to be sustained, and a still greater effort to be advanced. It is not, in my view, the manifest destiny of humanity to improve by the operation of an inevitable necessary law of progress; but while I believe that it is the design of Providence that man should be improved, this improvement must be the result of individual effort, or of the combined effort of many individuals, animated

by the same feeling, and co-operating for the attainment of the same end. The world is still in a degraded condition; ignorance, want, rapine, murder, superstition, fraud, uncleanness, inhumanity, and malignity abound. We thank God, however, that he has given us the promise, and in some cases, the foretaste, of a happier and holier condition, that he has vouchsafed to us as individuals, each in his own sphere, the privilege, and has enjoined upon us the duty of becoming his instruments, and thus co-workers, in ameliorating the condition of ourselves, and our fellow men; and above all, that he has enabled us through education to improve the generations which are to follow us. If we sow judiciously in the present, the world will assuredly reap a beneficent harvest in the future; and he has not lived in vain, who leaves behind him as his successor a child better educated morally, intellectually, and physically than himself. From this point of view the responsibilities of life are immense. Every individual by his example and precept, whether intentionally or otherwise, does aid or oppose this important work, and leaves an impress of character upon the succeeding age, which is to mould its destiny for weal or woe in all coming time.

Civilization itself, as I have before observed, is a state of unstable equilibrium which if not supported by the exertions of individuals, resembles an edifice with a circumscribed base, which becomes the more tottering as we expand its lateral dimensions, and increase its height. Modern civilization is founded on a knowledge and application of the moral, intellectual, and physical laws by which Divine wisdom governs the universe. The laws of morality have been revealed to us, but they require constant enforcement and habitual observance. The laws of the intellectual and material universe have been discovered by profound study and years of incessant labor, and unless they are taught in purity, and freed from error, they fail to produce their legitimate result. But the illustration and enforcement of the laws of morality require the exertions of men of high talents and profound learning; and a true knowledge of the laws of nature can only be imparted by minds that have long been devoted to their study. Therefore a large number of highly educated men whose voice may be heard, and whose influence may be felt, is absolutely necessary to sustain the world in its present moral and intellectual development. The world, however, is not to be advanced by the mere application of truths already known; but we look forward, particularly in physical science, to the effect of the development of new principles. We have scarcely as yet read more than the title page and preface of the great volume of nature, and what we

do know is nothing in comparison with that which may be yet unfolded, and applied; but to *discover* new truths requires a still higher order of individual talent. In order that civilization should continue to advance, it therefore becomes necessary that special provision should be made for the *actual increase* of knowledge, as well as for its diffusion; and that support should be afforded, rewards given, and honors conferred on those who *really add* to the sum of human knowledge.

This truth however is not generally appreciated, and the tendency is to look merely at the immediate results of the application of science to art, and to liberally reward and honor those who simply apply known facts, rather than those who *discover* new principles.

From what we have said it would appear that in order that civilization should remain stationary, it is absolutely necessary that the great truths which have been established should not become diluted, obscured, or forgotten; that their place should not be usurped by error, or in other words that the great principles of science, which have been established through long years of toil and nights of vigilance, should not be superseded by petty conceits, by hasty and partial generalizations, and by vague speculations or empirical rules. Farther, that civilization should not retrograde, it is indispensably necessary that the great truths of morality should not only be theoretically taught and intellectually apprehended, but actively, constantly, and habitually applied. But this state of things can only exist by means of the efforts of individuals actuated by a generous, liberal, and enlightened philanthropy. Unfortunately, however, the tendency of civilization, from the increase of wealth, and security, is to relax individual effort. Man is naturally an indolent being, and unless actuated by strong inducements or educated by coercion to habits of industry, his tendency is to supineness and inaction. In a rude state of society an individual is dependent upon his own exertions for the protection of himself, his family, and his property; but as civilization advances personal effort is less required, and he relies more and more on law and executive government. Moreover, as wealth and elementary education become more general without a corresponding increase of higher instruction, the voice of the profound teacher becomes less and less audible; his precepts and admonitions less and less regarded; he is himself obliged to comply with popular prejudices and conform to public opinion, however hastily formed or capricious such an opinion may be. Hence the tendency to court popular favor, to be influenced by it, rather than attempt to direct it. Hence charlatanism

and the various dishonest attempts to gain notoriety rather than a true reputation, so frequently observed. Knowledge has arrived at such a stage of advancement that a division of labor in regard to it is necessary. No one can be learned in all the branches of human thought; and the reputation of an individual therefore ought to rest on the appreciation of his character by the few, comparatively, who have cultivated the same field with himself. But these are not generally the dispensers of favor, and consequently he who aspires to wealth or influence seeks not their approbation; but the commendation and applause of the multitude. It is impossible that those who are actively engaged in the business of life should have time for profound thought. They must receive their knowledge, as it were, at second-hand; but they are not content under our present system of education with the position of students, they naturally aspire to that of teachers; and every one who has learned the rudiments of literature or science becomes ambitious of authorship, and a candidate for popular applause. Knowledge in this way becomes less and less profound in proportion to its diffusion. In such a condition of things it is possible that the directing power of an age may become less and less intelligent as it becomes more authoritative, and that the world may be actually declining in what constitutes real, moral, and intellectual greatness, while to the superficial observer it appears to be in a state of rapid advance. I do not affirm that this is the case at present. I am merely pointing out tendencies.

The present is emphatically a reading age; but who will venture to say that it is proportionately a *thinking* age? The sum of positive knowledge is embraced in but few books, and small would be the library necessary to contain the essence of all that is known. We read too much and too quickly to read understandingly. The world is gorged with intellectual food, and healthful digestion is comparatively unknown. Too many books are published; I do not mean to say that too many *standard works* are printed, but by far too many silly, superficial and bad books are sent forth from the teeming press of our day. The public mind is distracted amidst a multiplicity of teachers and asks in vain for TRUTH. But few persons can devote themselves so exclusively to abstract science as fully to master its higher generalizations, and it is only such persons who are properly qualified to prepare the necessary books for the instruction of the many. I cannot for a moment subscribe to the opinion which is sometimes advanced that superficial men are best calculated to prepare popular works on any branch of knowledge. It is true that some persons have apparently the art of simplifying scientific prin-

ciples; but in the great majority of cases this simplification consists in omitting all that is difficult of comprehension. There is no task more responsible than that of the preparation of an elementary book for the instruction of the community; and no one should embark in such an undertaking who is not prompted by a higher motive than a mere love of notoriety, or the more general incentive, a hope of commercial success. He should love the subject upon which he intends to write, and by years of study and habitual thought, have become familiar with its boundaries, and be enabled to separate the true and the good from that which is merely hypothetical and plausible.

In this connexion I may mention the evils which result from literature and science becoming objects of merchandize, and yet not amenable to the laws of trade. I allude to the international copyright system. The tendency of the present condition of copyright law between England and America is greatly to debase literature, to supply cheap books, and not to impart profound wisdom or sound morality. English books are republished in this country and American books are reprinted in England, because they are *cheap*, and not because they are GOOD. Literary and scientific labor must be properly remunerated, or the market will be supplied with an inferior article. The principles of free trade are frequently improperly applied to this question. The protection required and demanded by the literary man is not that of a premium on his work, but the simple price which it ought to bear in the market of the world. He asks that the literary product of the foreigner may be paid for in order that justice may be done his brother, and also that he himself may receive a proper remuneration for his own labors. Would there be any manufactories of cloth, think you, in this country, if the tailor had the means and inclination to procure free of cost all the material of the garments which he supplies to his customers? And can it be supposed that valuable literary works will be produced among us, so long as our publishers are allowed to appropriate, without remuneration, the labors of the foreigner? The want of an international copyright law has, I know, produced a very unfavorable effect upon higher education in this country. It has prevented the preparation of text-books better suited to the state of education among us than those which are re-published from abroad, and adopted in many of our institutions of learning.

Another result of the wide diffusion of elementary knowledge, without a proper cultivation of the higher intellectual faculties, and an inculcation of generous and unselfish principles, is the inordinate desire

for wealth. To acquire power and notoriety in this way requires the least possible amount of talents and intelligence, and yet success in this line is applauded even if obtained by a rigid application of the dishonest maxim that "*all is fair in trade.*" We have a notable example of this fact in the autobiography of an individual who glories in his shame, and unblushingly describes the means by which he has defrauded the public. No one who has been called upon to disburse public money can have failed to be astonished at the loose morality on the part of those who present claims for liquidation. The old proverb here is very generally applied, namely, "the public is a goose, and he is a fool who does not pluck a feather!" A full treasury, instead of being considered a desirable or healthy state of the nation, should be regarded as the precursor of a diseased condition of the public morals. That the tendencies which I have mentioned do to a greater or less extent exist, and that they require the serious consideration of the enlightened statesman, and the liberal minded and judicious friend of education, must be evident to every one who seriously and without prejudice observes the habits of the times.

The proper appreciation of profound learning and abstract science is not as a general rule what it ought to be. The most authoritative teacher is the editor of a newspaper. Whatever may have been his previous training, or however circumscribed his field of thought, he is the umpire to decide upon all questions even of the most abstract science or the most refined casuistry.

The question may be asked with solicitude—Are the tendencies we have mentioned inevitable? Are there no means of counteracting them? And is our civilization to share the fate of that of Egypt, Greece, and Rome? Is humanity destined to a perpetual series of periodical oscillations of which the decline is in proportion to the elevation? We answer, No! Though there have been oscillations, and will be again, they are like those which constitute the rising flood-tide of the ocean, although separated by depressions, each is higher than the one which preceded it. Something may have been *lost* at intervals; but on the whole more has been and will be *gained*. But how is this to be effected? The man of science and literature, the educator, and the christian teacher, together with the enlightened editor, must combine their efforts in a common cause, and through the influence of the press, the school, the college, and the pulpit send forth a potential voice which shall be heard above the general clamor.

Common school or elementary education is the basis on which

the superstructure of the plan of true progress should be established; but it must be viewed in its connection with a general system, and not occupy exclusively the attention and patronage of governments, societies, and individuals; liberal means must also be provided for imparting the most profound instruction in science, literature and art.

In organizing new states and territories, the amplest provision ought to be made for all grades of education; and if possible, every individual should have the opportunity offered him of as much mental culture as he is capable of receiving or desirous of acquiring. Notwithstanding comparatively few may have the industry and perseverance necessary to the highest attainment. It is also of the first importance, that modes of instruction be examined and thoroughly discussed, in order that what is valuable in the past should be retained, and what is really an improvement in the present, be judiciously and generally applied.

Having presented some general suggestions in regard to the bearing of education, and the efforts of individuals on the progress of humanity, I now propose to offer for consideration a few observations on the theory of the process of instruction.

It may seem strange that the theory of an art so long practised as that of education should not be definitely settled; but strange as it may appear, the fact is certain, that few writers fully agree as to what is the true plan and process of education. No art can be perfect unless it rests upon a definite conception of fundamental principles, or in other words, unless its theory be well established upon a general law of nature. The laws which govern the growth and operations of the human mind are as definite, and as general in their application, as those which apply to the material universe; and it is evident that a true system of education must be based upon a knowledge and application of these laws. Unfortunately, however, psychologists have not classified and exhibited them in a form sufficiently definite to render their application easy, and the directors of education have too often considered merely the immediate practical result which might follow a particular course of training, rather than that which would be conducive to the highest development of the individual. In this condition of the theory of education, I have myself ventured to speculate upon the subject, and though I may have nothing new of value to offer, it is my duty at this time to make such suggestions as may furnish topics of discussion, or serve to illustrate established truths.

The theory which I would present for your consideration, and

critical examination, and which appears to me to be in accordance with the results of experience, may be briefly expressed as follows:

The several faculties of the human mind are not simultaneously developed, and in educating an individual we ought to follow the order of nature, and to adapt the instruction to the age and mental stature of the pupil. If we reverse this order, and attempt to cultivate faculties which are not sufficiently matured, while we neglect to cultivate those which are, we do the child an irreparable injury. Memory, imitation, imagination, and the faculty of forming mental habits, exist in early life, while the judgment and the reasoning powers are of slower growth. It is a fact abundantly proved by observation that the mere child, by the principle which has been denominated *sympathetic imitation*, may acquire the power of expressing his desires and emotions in correct, and even beautiful language without knowing, or being able to comprehend, the simplest principles of philology. He even seizes, as if by a kind of instinct, upon abstract terms, and applies them with ease and correctness. But as life advances the facility of verbal acquisition declines, and with some it entirely disappears. Hence the plan appears to me to be wise, and in accordance with nature, which makes the acquisition of language an essential part of early elemental education. The same child which acquires almost without effort his vernacular tongue may by a similar process be taught to speak the principal ancient and modern languages. He may also acquire the art of the accountant, and be taught by proper drilling to add long columns of figures with rapidity and correctness, without being able to comprehend the simplest abstract principles of number and magnitude. Moreover, it is well known that the memory may be stored at a very early age with valuable rules and precepts, which in future life may become the materials of reflection, and the guiding principles of action; that it may be furnished with heroic sentiments and poetic illustrations, with "thoughts which breathe and words that burn," and which long after, will spontaneously spring up from the depths of the mind, at the proper moment, to embellish and to enforce the truths of the future author, statesman, or divine.

But the period of life, when acquisitions of this kind are most readily made, is not that in which the judgment and reasoning powers can be most profitably cultivated. They require a more advanced age, when the mind has become more matured by natural growth, and better furnished with the materials of thought.

Mental education consists in the cultivation of two classes of faculties, viz., the intellectual and the moral.

Intellectual instruction, of which we shall first speak, should have at least three objects :—

1. To impart facility in performing various mental operations.

2. To cultivate the imagination, and store the memory with facts and precepts : and

3. To impart the art of thinking, of generalization, of induction and deduction.

The most important part of elementary mental instruction, and that which I have placed first in the foregoing classification, is that of imparting expertness in the performance of certain processes which may be denominated mental arts. Among these arts are spelling, reading, penmanship, drawing, composition, expertness in the first rules of arithmetic, and in the use of different languages. These can only be imparted by laborious drilling on the part of the teacher, and by acquired industry and attention on the part of the pupil. The practice in each case must be so long continued, and the process so often repeated, that it becomes a mental habit, and is at length performed with accuracy and rapidity almost without thought. It is only in early life, while the mind is in a pliable condition, that these mental facilities can most readily and most perfectly be acquired, while the higher principles of science, on which these arts depend, can only be thoroughly understood by a mind more fully matured. Expertness in the performance of an art does not depend on a knowledge of its principles, and can be readily acquired without reference to them. The most expert accountants are frequently, and perhaps generally, those who have no knowledge of the philosophy of figures. On the other hand, a profound acquaintance with the principles of an art may exist without the ability to apply it in practice. I have known of mathematicians who were unable to perform with accuracy and dispatch the processes which constitute the application of the simple rules of multiplication and addition. The same is the case with the art of composition. A most learned rhetorician is not necessarily a fluent and pleasing writer.

The acquisition, therefore, of these arts should be the principal and prominent object of the primary or common school, and nothing ought to be suffered to usurp their place. Unfortunately, the drilling which is at first required to induce the mental habit is so laborious and tedious to the teacher, and in most cases so irksome and distasteful to the pupil, that there is a tendency, and I am sorry to say in our schools a growing one, to neglect them, and to substitute other objects of more apparent, but of less intrinsic value.

This is not only an irreparable injury to the individual, but also to the public. All the practical operations of life in which these processes are concerned,—and they apply to all except those of mere handicraft skill—are badly performed. I may venture to say that the general substitution of instruction in the mere *rationale* of the rules of arithmetic, without a proper drilling in the practice, would produce more bankruptcies than all the changes of tariffs or fluctuations of trade.

It is an important principle, which should be kept in view by the teacher, that although the practice of an art is at first difficult, and requires at each step an effort of mind, yet every repetition renders it easier, and at length we come to exercise it not only without effort, but as a pleasurable gratification of an habitual act. Perseverance therefore in this cause will ultimately receive a grateful reward. It should be impressed upon the minds of the directors of elementary education that the teacher who neglects to train his pupils to expertness in these processes, or who merely does enough in this way to awaken a distaste, and who fails to overcome this condition of mind by subsequent judicious drilling, is unworthy of his high vocation, and should give place to a more industrious or more philosophical instructor.

All the processes we have enumerated, besides various manipulations and bodily exercises necessary to health, refinement and convenience, may be taught previous to the age of ten or twelve years. At the same time the memory may be educated to habits of retention and precision; and, for this purpose definite, and if possible elegantly expressed rules should be chosen, to be committed without the slightest deviation, and so impressed upon the memory that they will ever after remain a portion of the mental furniture of the man, always ready to be called up when needed, and always to be depended upon for accuracy. The mere understanding of the rule, and the power of being able to express it in a vague and indefinite way in original language is, in my judgment, not of itself sufficient. The memory is an important faculty of the mind, and is susceptible of almost indefinite cultivation. It should, however, in all cases be subservient to the judgment.

Habits of observation may also be early cultivated, and a boy at the age of twelve years may be taught to recognize and refer to its proper class almost every object which surrounds him in nature; and indeed the whole range of descriptive natural history may be imparted previous to this age.

Nothing, in my opinion, can be more preposterous or mischievous

than the proposition so frequently advanced, that the child should be taught nothing but what it can fully comprehend, and the endeavor in accordance with this to invert the order of nature, and attempt to impart those things which cannot be taught at an early age, and to neglect those which at this period of life the mind is well adapted to receive. By this mode we may indeed produce remarkably intelligent children who will become remarkably feeble men.

The order of nature is that of art before science, the entire concrete first; and the entire abstract last. These two extremes should run gradually into each other, the course of instruction becoming more and more logical as the pupil advances in years.

Thus far we have principally considered only the education of the habits and the memory, and it is particularly to these that the old system of drilling is peculiarly applicable. I know that this custom has, to a considerable degree, fallen into disuse, and the new and less laborious system of early precocious developement, been substituted in its stead. In this respect the art of instruction among us has retrograded rather than advanced, and "Young America" though a very sprightly boy may fail to become a very profound man!

I would not, however, by the foregoing remarks have it inferred, that the reasoning faculties of the child should not receive due attention, and that clear conceptions of the principle of every process taught should be elucidated and explained, as far as he is able to understand them; but that the *habits* and the *memory* should be the main objects of attention during the early years of the pupils' course. The error of the old system consisted in continuing the drilling period too long, and in not shading it off gradually into that of the logical, or what might be called the period of the acquisition and use of general principles.

The last part of mental education as given in our classification is that which relates to the cultivation of the judgment and the reasoning powers. These faculties of the mind, as we have repeatedly said, are latest in arriving at maturity, and indeed, they may be strengthened continually and improved progressively through a long life, provided they have been properly directed and instructed in youth and early manhood.

They should be exercised in the study of mathematical analysis and synthesis; in deducing particular facts in a logical form from general principles; and instructed in the process of discovering new truths. The cultivation of the imagination should also be considered an essential part of a liberal education, and this may be spread over

the whole course of instruction, for like the reasoning faculties the imagination may continue to be improved until late in life.

From the foregoing remarks it will be evident that I consider the great object of intellectual education to be, not only to teach the pupil how to *think*, but how to *act* and to *do*, and I place great stress upon the early education of the *habits*. And this kind of training may be extended beyond the mental processes to the moral principles; the pupil may be taught on all occasions habitually and promptly, almost without thought, to act properly in any case that may occur, and this in the practical duties of life is of the highest importance. We are frequently required to act from the impulse of the moment, and have no time to deduce our course from the moral principles of the act. An individual can be educated to a strict regard for truth, to deeds of courage in rescuing others from danger, to acts of benevolence, of generosity and justice; or though his mind may be well stored with moral precepts, he may be allowed to fall into opposite habits alike prejudicial to himself, and to those with whom he is associated. He may "know the right, and yet the wrong pursue."

Man is the creature of habit; it is to him more than second nature; but unfortunately, while bad habits are acquired with readiness, on account of the natural desire to gratify our passions and appetites, good habits can only be acquired by unremitting watchfulness and labor. The combined habits of individuals form the *habits of a nation*, and these can only be moulded, as I have before said, by the coercive labor of the instructor judiciously applied.

The necessity of early and judicious moral training is often referred to, but its importance is scarcely sufficiently appreciated. The future character of a child, and that of the man also, is in most cases formed, probably, before the age of seven years. Previously to this time impressions have been made which shall survive amid all the vicissitudes of life—amid all the influences to which the individual may be subjected, and which will outcrop, as it were, in the last stage of his earthly existence, when the additions to his character, made in later years, have been entirely swept away. In connection with this point, I may mention one idea which has occurred to me, and which I have never seen advanced; but which, if true, invests the subject of early impressions with a fearful interest. The science of statistics shows that certain crimes which are common in the seasons of youth disappear, comparatively, with advancing age, and re-appear again toward the close of life; or in other

words, that the tendencies to indulgences in disorders of imagination, and habits which were acquired in the early life of a vicious youth, or one exposed to evil associations, though they may be masked and kept in subjection by the judgment, and the influences of position and reputation during early manhood, middle life, and first decline, resume their sway, and close the career of the man who has perhaps for years sustained a spotless reputation, with ignominy and shame. How frequently do cases of this kind present themselves? I have now in my mind's eye an individual who for forty years was known and esteemed as a model of honor, purity and integrity, but who at the age of seventy committed a crime which consigned his name to infamy. Depend upon it, this man was subjected to evil influences in early life, and the impressions then made, though neutralized by the conditions and circumstances which afterwards surrounded him, were never effaced, and when the latter ceased to produce their restraining effects, the former resumed their original sway. Pursuing this train of thought we would conclude that the child is not merely the father of the man, but more emphatically, the father of the *old* man; that the term second childhood has a more extended signification than that of the mere decline of the faculties. It also should convey the idea that the tendency of the dispositions and propensities of individuals is to return to the condition of earlier life. This principle is important also in a historical point of view. The aged, though they may forget the occurrences of middle and after life, recall with vivid distinctness the impressions of childhood, and thus the grandfather with senile garrulity, transmits the history of his early times, as it were, across an intervening generation to his grandson. This again makes an indelible impression upon the plastic mind of his youthful auditor, to be alike transmitted to *his* children of the third generation. Abundant examples might be adduced to illustrate the proposition of the vivid recurrence of the effects of early impressions apparently effaced. Persons who have for long years been accustomed to speak a foreign language, and who have forgotten the use of any other, have frequently been observed to utter their dying prayers in their mother tongue.

In this country, so far as I have observed, the course of education is defective in two extremes: it is defective in not imparting the mental habits or facilities which can most easily be acquired in early life, and it is equally defective in the other extreme, in not instructing the student, at the proper period, in processes of logical thought, or deductions from general principles. While elementary schools

profess to teach almost the whole circle of knowledge, and neglect to impart those essential processes of mental art of which we have before spoken, our higher institutions, with some exceptions, fail to impart knowledge, except that which is of a superficial character. The value of facts, rather than of general principles, is inculcated. The one, however, is almost a consequence of the other. If proper seeds are not sown, a valuable harvest cannot be reaped.

The organization of a system of public education in accordance with my views would be that of a series of graded schools beginning with the one in which the mere rudiments of knowledge are taught, and ending with that in which the highest laws of mind and matter are unfolded and applied. Every pupil should have the opportunity of passing step by step through the whole series, and honors and rewards should be bestowed upon those who graduated in the highest school. Few, however, as I have said before, would be found to possess the requisite talent and perseverance necessary to finish a complete course. But at whatever period the pupil may abandon his studies, he should be found fitted for some definite pursuit or position in life, and be possessed of the moral training necessary to render him a valuable citizen and a good man.

These are some of the subjects which I commend for discussion at the present meeting of the association. The great aim should be to enforce the importance of thorough early training and subsequent high education. It should be our object to bring more into repute profound learning, and to counteract the tendency to the exclusive diffusion of popular and mere superficial knowledge. We should endeavor to enlarge the pyramid of knowledge by symmetrical increments, by elevating the apex, and expanding the base always observing the conditions of stable equilibrium.

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